CLAIMS

Claim 19 is currently amended.

1. (Original) A system for effectively increasing transmission bandwidth by transmitting a plurality of simultaneous information streams over a transmission medium, the system comprising: a. a digital receiving mechanism for receiving incoming streams of digital information on each of a plurality of incoming digital lines, the digital information being in a binary format of "0"s and "1"s, b. an assignment mechanism for generating respective streams of "no-play" and "play" commands using digital information on each of a plurality of corresponding incoming streams; c. a signal generation mechanism equipped to generate a plurality of prime number frequency components; d. a switching mechanism, coupled to the signal generation mechanism, for rendering the digital information on each of the plurality of incoming streams unique by applying "no-play" and "play" commands of a respective incoming stream to a corresponding prime number frequency component to be generated by the signal generation mechanism, to thereby generate a corresponding plurality of prime number frequency component information streams; and e. a transmission mechanism for simultaneously transmitting the plurality of prime number frequency component information streams over the transmission medium in the form of disharmonic chords, whereby respective prime number frequency component information streams represent corresponding incoming digital lines.

2. (Original) The system of claim 1 further comprising an information stream receiving mechanism for receiving an information stream in the form of disharmonic chords transmitted on the transmission medium; the information stream receiving mechanism including a plurality of frequency-selective filters, each of respective filters substantially passing a corresponding prime frequency component and substantially rejecting a plurality of other prime frequency components, such that the frequency-selective filters substantially isolate a prime frequency component included in the disharmonic chords, to thereby provide a plurality of

isolated prime frequency components, each of respective isolated prime frequency components representing a corresponding incoming digital line.

3. (Original) The system of claim 2 further including a conversion mechanism, coupled to the information stream receiving mechanism, for converting each of a plurality of isolated prime frequency components back into a stream of digital information.

4. (Original) The system of claim 1 wherein at least two of: a. the digital receiving mechanism, b. the assignment mechanism, c. the signal generation mechanism; d. the switching mechanism, and e. the transmission mechanism are integrated into the software programming of a computing mechanism, telecommunications switching device, and/or computer server.

5. (Original) The system of claim 1 wherein: a. the digital receiving mechanism, b. the assignment mechanism, c. the signal generation mechanism; d. the switching mechanism, and e. the transmission mechanism are implemented by one or more application-specific integrated circuit chips (ASICs).

6. (Original) The system of claim 1, wherein at least two of: a. the digital receiving mechanism, b. the assignment mechanism, c. the signal generation mechanism; d. the switching mechanism, and e. the transmission mechanism, are implemented by an IP server that transmits voice over IP data lines, as used in Internet Telephony devices.

7. (Original) A system for effectively increasing information storage capacity of a computer-readable data storage medium by storing a plurality of prime number frequency component information streams on the data storage medium, the system comprising: a. a digital receiving mechanism for receiving incoming streams of digital information on each of a plurality of incoming digital lines, the digital information being in a binary format of "0"s and "1"s, b. an assignment mechanism for generating respective streams of "no-play" and "play" commands using digital information on each of a plurality of corresponding incoming streams; c. a signal generation mechanism equipped to generate a plurality of prime number frequency components;

d. a switching mechanism, coupled to the signal generation mechanism, for rendering the digital information on each of the plurality of incoming streams unique by applying "no-play" and "play" commands of a respective incoming stream to a corresponding prime number frequency component to be generated by the signal generation mechanism, to thereby generate a corresponding plurality of prime number frequency component information streams; and e. a data storage mechanism for storing the plurality of prime number frequency component information streams on the data storage medium in the form of electronic representations of disharmonic chords, whereby respective prime number frequency component information streams represent corresponding incoming digital lines.

8. (Original) The system of claim 7, wherein the computer-readable data storage medium comprises any of magnetic tape, optical data storage media, compact discs (CDs), CD-R and CD-RW discs, computer hard drives, floppy discs, bubble memory, semiconductor memory chips, and molecular memory chips.

9. (Original) The system of claim 8 further comprising an information stream reading mechanism for reading an information stream in the form of disharmonic chords stored on the data storage medium; the information stream reading mechanism including a plurality of frequency-selective filters, each of respective filters substantially passing a corresponding prime frequency component and substantially rejecting a plurality of other prime frequency components, such that the frequency-selective filters substantially isolate a prime frequency component included in the disharmonic chords, to thereby provide a plurality of isolated prime frequency components, each of respective isolated prime frequency components representing a corresponding incoming digital line.

10. (Original) The system of claim 9 further including a conversion mechanism, coupled to the information stream reading mechanism, for converting each of a plurality of isolated prime frequency components back into a stream of digital information.

11. (Original) The system of claim 1, wherein the transmission medium utilizes any of T-1 protocols, frame relay protocols, satellite communication links, ATM (asynchronous transfer mode) protocols, and fiber optics communication links.

12. (Original) The system of claim 1 wherein at least two of: a. the digital receiving mechanism, b. the assignment mechanism, c. the signal generation mechanism; d. the switching mechanism, and e. the transmission mechanism, are implemented using one or more computer microprocessors.

13. (Original) The system of claim 1 wherein at least two of: a. the digital receiving mechanism, b. the assignment mechanism, c. the signal generation mechanism; d. the switching mechanism, and e. the transmission mechanism, are implemented using megabit computer processing chips or computer processing chips of a determinable bit size.

14. (Original) The system of claim 1 wherein at least two of: a. the digital receiving mechanism, b. the assignment mechanism, c. the signal generation mechanism; d. the switching mechanism, and e. the transmission mechanism, are implemented using a computer processing chip where the bit size is any arbitrarily determined number, including but not limited to 64 bits or 128 bits, such that the computer processing chip may be programmed with a number of instructions approaching the maximum instruction programming capacity of the processing chip.

15. (Original) The system of claim 14 wherein the transmission mechanism is controlled using processor instructions, and the computer processor chip is equipped with a processor of any size, including but not limited to a 100 bit processor, a 1,000 bit processor, and a 10,000 bit processor.

16. (Original) The system of claim 15, wherein computer and machine instructions are stored on a computer readable data storage medium using representations of prime number Hertz frequencies.

17. (Original) The system of claim 1, wherein the incoming streams of digital information represent any of video, images, data and voice.

18. (Original) The system of claim 7, wherein the incoming streams of digital information represent any of video, images, data and voice.

19. (Currently Amended) A method of conveying over a common transmission medium, without mutual interference, information from a plurality of incoming binary bit streams, the method comprising the steps of: ~~a. rendering each binary bit stream unique by assigning to it a respective primary number frequency component, whereby the resultant bit stream is converted into a prime frequency component stream whose content depends on a prime frequency assigned to the binary bit stream; and b. simultaneously transmitting the plurality of prime frequency component streams as disharmonic chords over the common transmission medium.~~

a. receiving incoming streams of digital information on each of said plurality of incoming binary bit streams, the digital information being in a binary format of "0"s and "1"s,

b. generating respective streams of "no-play" and "play" commands using digital information on each of a plurality of corresponding incoming binary bit streams;

c. generating a plurality of prime number frequency components;

d. rendering the digital information on each of the plurality of incoming binary bit streams unique by applying "no-play" and "play" commands of a respective incoming binary bit stream to a corresponding generated prime number frequency, to thereby generate a corresponding plurality of prime number frequency component information streams; and

e. simultaneously transmitting the plurality of prime number frequency component information streams over the transmission medium in the form of disharmonic chords, whereby respective prime number frequency component information streams represent corresponding incoming binary bit streams.

20. (Original) A method as set forth in claim 19, further comprising the steps of receiving a disharmonic chord, separating the chord into individual prime frequency component streams, and decoding each individual prime frequency component stream to recover binary information carried thereby.